

# MCQ110-A2-VIS

## PRODUCT OVERVIEW

These modulators have been specially designed for application where high optical power is involved and TeO2 cannot be used. Thanks to the large aperture, in most cases, no additional optics is required. They cover the VIS range from 458 nm to 650 nm and they are suitable for DPSS 532 nm or AR laser.

Common applications include intensity modulators, fixed frequency shifters and also variable frequency shifters : 110 +/- 15 MHz.

## FEATURES

- High Laser power.
- Large Aperture.
- Linear polarization.
- High diffraction efficiency.



## SPECIFICATIONS (T=25°C)

PARAMETER	RATING	UNIT
Material-Acoustic mode-Velocity	Crystal Quartz[L] – 5740	m/s
Optical Wavelength range (AR coated) ( $\lambda$ )	458-650	nm
Carrier Frequency / Frequency shift(F)	+/-110	MHz
Transmission	$\geq 95$ , nom 98	%
Input / Output Polarization	Linear vertical/Linear vertical	
Active Aperture	2 x 2	mm <sup>2</sup>
Rise/fall time (Tr)	115	ns/mm
Minimum rise/fall time	57.5 ( $\varnothing 0.5$ mm)	ns
Separation Angle (0-1) ( $\Delta\theta$ )	>10.2	mrd
Static Extinction Ratio	>30	dB
*Diffraction Efficiency ( $\eta$ )	>85, nom 90	%
Max optical power density	100	W/mm <sup>2</sup>
Input impedance	50	$\Omega$
V.S.W.R.	< 1.2:1	
RF Power (P)	<8	W
Connector	SMA female	
Size	72 x 49.6 x 22	mm <sup>3</sup>
Weight	Nom 150	g
Packaging	IN PRO 233	
Operating Temperature (non condensing)	+10 to +40	°C
Storage Temperature (non condensing)	-40 to +65	°C
RoHS Compliance	Yes	
On request variable frequency +/- 15 MHz MCQ110-B30A2-VIS	Efficiency > 70 over full range	%

\*Diffraction efficiency is beam diameter and wavelength dependent

# MCQ110-A2-VIS

$$T_r = 0.66 \frac{\phi}{V} * F_{-3dB} = \frac{0.48}{T_r} * \Delta\theta = \frac{\lambda F}{V} * \frac{P_1}{P_2} = \frac{\lambda_1}{\lambda_2}$$

## OUTLINE DRAWING, mm

